

CLAIMS

What is claimed is:

1. A terrestrial communication system using satellite uplink and downlink frequencies used by satellites, comprising:
 - at least one terrestrial user terminal transmitting, without using said satellites, a first signal on at least one satellite downlink frequency and receiving,
 - 5 without using said satellites, a second signal on at least one satellite uplink frequency.
2. The terrestrial communication system of claim 1, wherein said terrestrial communication system includes a signal nulling means in the direction of said satellites that produces signals using said uplink and said downlink frequencies.
3. A terrestrial communication system using satellite uplink and downlink frequencies used by satellites, comprising:
 - a terrestrial terminal unit producing a first signal at a satellite downlink frequency that is transmitted without using said satellites within the terrestrial communication
 - 5 system, and

said terrestrial terminal unit receiving a second signal at a satellite uplink frequency that was transmitted without using said satellites from within the terrestrial communication system.
4. The terrestrial communication system of claim 3, wherein a satellite ground user using said uplink and said downlink frequencies is geographically isolated from said terrestrial terminal unit.

5. A method of minimizing interference between terrestrial user communications and satellite user communications, comprising:

reversing the transmission and reception frequency bands for the terrestrial user relative to the satellite user.

6. The method of claim 5, further comprising generating at least one pattern null with an antenna to reduce satellite interference.

7. A method of reusing satellite spectrum for terrestrial communications, comprising:

assigning satellite frequency bands so that terrestrial users and satellite users on the ground within the same geographic region are using different satellite uplink and
5 downlink bands;

adding pattern nulls to terrestrial antennas, that transmit and receive signals from terrestrial users, to block satellite interference.

8. The method of Claim 7 wherein the step of assigning comprises assigning transmission and reception bands to terrestrial users, wherein the transmission and reception bands are satellite downlink and uplink bands respectively.